We claim:

1. A welding flux that resists moisture pickup comprising flux agent and binder; said flux agent including at least one compound selected from the group consisting of metal oxide, metal fluoride, metal carbonate, and mixtures thereof; said binder including a majority weight percent of silicate, said silicate including potassium silicate, sodium silicate, and mixtures thereof; said binder including an effective amount of colloidal silica to reduce water binding sites on the silicate after said binder is at least partially dried, said colloidal silica having silica particles with an average particle size of less than about 100 nanometers.

2. The welding flux as defined in claim 1, wherein said silicate includes a majority weight percentage of potassium silicate plus sodium silicate, said sodium silicate having a weight ratio to said potassium silicate of about 1.5:1 to about 8:1.

3. The welding flux as defined in claim 2, wherein said weight ratio of said sodium silicate to said potassium silicate is about 1.5:1 to about 4:1.

4. The welding flux as defined in claim 1, wherein said average particle size of said silica particles is about 6-50 nanometers.

5. The welding flux as defined in claim 2, wherein said average particle size of said silica particles is about 6-50 nanometers.

6. The welding flux as defined in claim 4, wherein said average particle size of said silica particles is about 6-20 nanometers.

7. The welding flux as defined in claim 1, wherein said binder includes about 0.05 to about 45 weight percent colloidal silica.

8. The welding flux as defined in claim 2, wherein said binder includes about 0.05 to about 45 weight percent colloidal silica.

9. The welding flux as defined in claim 5, wherein said binder includes about 0.05 to about 45 weight percent colloidal silica.

10. The welding flux as defined in claim 1, wherein said binder includes about 0.05 to about 15 weight percent colloidal silica.

11. The welding flux as defined in claim 1, wherein said silicate has a molar ratio of silica to alkali metal oxide of at least about 1.5:1.

12. The welding flux as defined in claim 2, wherein said silicate has a molar ratio of silica to alkali metal oxide of at least about 1.5:1.

12. The welding flux as defined in claim 9, wherein said silicate has a molar ratio of silica to alkali metal oxide of at least about 1.5:1.

14. The welding flux as defined in claim 1, wherein said silicate has a molar ratio of silica to alkali metal oxide of at least about 2:1.

15. The welding flux as defined in claim 1, wherein said binder includes at least an effective amount of lithium compound to reduce water binding sites on said silicate after said binder is at least partially dried.

16. The welding flux as defined in claim 2, wherein said binder includes at least an effective amount of lithium compound to reduce water binding sites on said silicate after said binder is at least partially dried.

17. The welding flux as defined in claim 4, wherein said binder includes at least an effective amount of lithium compound to reduce water binding sites on said silicate after said binder is at least partially dried.

18. The welding flux as defined in claim 7, wherein said binder includes at least an effective amount of lithium compound to reduce water binding sites on said silicate after said binder is at least partially dried.

19. The welding flux as defined in claim 4, wherein said binder includes at least an effective amount of lithium compound to reduce water binding sites on said silicate after said binder is at least partially dried.

20. The welding flux as defined in claim 8, wherein said binder includes at least an effective amount of lithium compound to reduce water binding sites on said silicate after said binder is at least partially dried.

21. The welding flux as defined in claim 12, wherein said binder includes at least an effective amount of lithium compound to reduce water binding sites on said silicate after said binder is at least partially dried.

22. The welding flux as defined in claim 13, wherein said binder includes at least an effective amount of lithium compound to reduce water binding sites on said silicate after said binder is at least partially dried.

23. The welding flux as defined in claim 15, wherein said lithium compound includes lithium hydroxide, lithium carbonate, lithium alginate, and mixtures thereof.

24. The welding flux as defined in claim 1, including ferrous alloy and a ferrous alloy passifier, said ferrous alloy passifier including a chromium compound.

25. The welding flux as defined in claim 2, including ferrous alloy and a ferrous alloy passifier, said ferrous alloy passifier including a chromium compound.

26. The welding flux as defined in claim 22, including ferrous alloy and a ferrous alloy passifier, said ferrous alloy passifier including a chromium compound.

27. The welding flux as defined in claim 24, wherein said ferrous alloy passifier includes $NaCrO_2$, $KCrO_2$, $LiCrO_2$, and mixtures thereof.

28. The welding flux as defined in claim 24, wherein said ferrous alloy includes FeMg, FeMn, FeNi, FeSi, and mixtures thereof.

29. The welding flux as defined in claim 1, wherein said colloidal silica prior to being dried includes a liquid and at least about 5 weight percent silica particles.

30. The welding flux as defined in claim 26, wherein said colloidal silica prior to being dried includes a liquid and at least about 5 weight percent silica particles.

31. The welding flux as defined in claim 29, wherein said silica particles constitute at least about 25 weight percent of said colloidal silica prior to being dried.

32. A welding flux binder comprising a majority weight percent silicate and at least an effective amount of colloidal silica to reduce water binding sites on said silicate after said binder is at least partially dried, a majority of said silicate including sodium silicate and potassium, said sodium silicate having a weight ratio to said potassium silicate of about 1.5:1 to about 8:1, said

silicate having a molar ratio of silica to alkali metal oxide of about 1.5:1 to about 9:1, said colloidal silica having silica particles with an average size of about 6-50 nanometers.

33. The welding flux binder as defined in claim 32, including at least an effective amount of lithium compound to reduce water binding sites on said silicate after said binder is at least partially dried.

34. The welding flux binder as defined in claim 33, wherein said lithium compound includes LiOH, $LiCO_3$, Li Alginate, and mixtures thereof.

35. The welding flux binder as defined in claim 32, wherein said lithium compound constitutes about 0.05 to 10 weight percent of said binder.

36. The welding flux binder as defined in claim 33, wherein said lithium compound constitutes about 0.05 to 10 weight percent of said binder.

37. The welding flux binder as defined in claim 34, wherein said lithium compound constitutes about 0.05 to 10 weight percent of said binder.

38. The welding flux as defined in claim 32, wherein said colloidal silica weight percent in said binder is greater than said lithium compound.

39. The welding flux as defined in claim 33, wherein said colloidal silica weight percent in said binder is greater than said lithium compound.

40. The welding flux as defined in claim 34, wherein said colloidal silica weight percent in said binder is greater than said lithium compound.

41. The welding flux as defined in claim 35, wherein said colloidal silica weight percent in said binder is greater than said lithium compound.

42. The welding flux as defined in claim 37, wherein said colloidal silica weight percent in said binder is greater than said lithium compound.

43. A method of forming a flux system having a lower water content and which resists moisture absorption comprising:

forming a flux binder, said flux binder including a silicate and a colloidal compound, said colloidal compound including a liquid and at least about 20 weight percent small particles, said liquid including water, said small particles including at least about 10 weight percent silicon dioxide, said small particles having an average particles size of less than about 100 nanometers, said silicate including potassium silicate, sodium silicate, and mixtures thereof;

mixing said flux binder with flux ingredients to form a flux mixture, said flux ingredients including a flux agent selected from the group consisting of metal oxide, metal fluoride, metal carbonate, and mixtures thereof; and,

drying said flux mixture at a temperature of at least about 400°C for at least about 30 minutes until a moisture content of said flux blend is less than about 1%.

44. The method as defined is claim 43, including the step of grinding said dried flux mixture to an average particle size of less than about 100 mesh.

45. The method as defined is claim 44, including the step of grinding said dried flux mixture to an average particle size of less than about 48 mesh.

46. The method as defined in claim 43, wherein said ground flux mixture is a submerged arc flux or a flux for a cored electrode.

47. The method as defined in claim 43, including the step of extruding said flux mixture about a metal electrode prior to drying said flux mixture.

48. The method as defined in claim 43, wherein said moisture content of said flux blend is less than about 0.6%.

49. The method as defined in claim 43, wherein said moisture content of said flux blend is less than about 0.2%.

50. The method as defined in claim 43, wherein said colloidal compound and metal silicate constitute at least about 80 weight percent of said flux binder, said metal silicate.

51. The method as defined in claim 43, wherein said dried flux binder includes at least about 0.1-35 weight percent colloidal compound.

52. The method as defined in claim 51, wherein said dried flux binder includes about 0.5-15 weight percent colloidal compound.

53. The welding flux as defined in claim 48, wherein said silicate includes a majority weight percentage of potassium silicate plus sodium silicate, said sodium silicate having a weight ratio to said potassium silicate of about 1.5:1 to about 8:1.

54. The welding flux as defined in claim 53, wherein said weight ratio of said sodium silicate to said potassium silicate is about 1.5:1 to about 4:1.

55. The welding flux as defined in claim 43, wherein said silicate has a molar ratio of silica to alkali metal oxide of at least about 1.5:1.

56. The welding flux as defined in claim 55, wherein said silicate has a molar ratio of silica to alkali metal oxide of at least about 2:1.

57. The welding flux as defined in claim 43, wherein said binder includes at least an effective amount of lithium compound to reduce water binding sites on said silicate after said binder is at least partially dried.

58. The welding flux as defined in claim 57, wherein said lithium compound includes lithium hydroxide, lithium carbonate, lithium alginate, and mixtures thereof.

59. The welding flux as defined in claim 43, including ferrous alloy and a ferrous alloy passifier, said ferrous alloy passifier including a chromium compound.

60. The welding flux as defined in claim 59, wherein said ferrous alloy passifier includes $NaCrO_2$, $KCrO_2$, $LiCrO_2$, and mixtures thereof.

61. The welding flux as defined in claim 59, wherein said ferrous alloy includes FeMg, FeMn, FeNi, FeSi, and mixtures thereof.

62. The welding flux as defined in claim 43, wherein said colloidal silica prior to being dried includes a liquid and at least about 5 weight percent silica particles.

63. The welding flux as defined in claim 62, wherein said silica particles constitute at least about 25 weight percent of said colloidal silica prior to being dried.